

BASIC Commander

By Robert Martin

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**The most powerful
programming aid available
for the ATARI**

Requires ATARI 810 Disk Drive • 16K RAM • ATARI Basic Cartridge

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INTRODUCTION

CONGRATULATIONS! You are now the owner of the most powerful aid to programming in ATARI BASIC available. BASIC Commander is an all machine language program designed to free the ATARI BASIC programmer from many of the limitations and compromises which were necessary to fit this language into an 8K cartridge. Although it occupies only 4K of RAM, it contains many features found only on much larger computers, available now for the first time for your ATARI. A programmer using BASIC Commander acquires access to a number of powerful programming tools that become instantaneously available from BASIC. The wide range of additional functions available includes automatic line numbering, program renumbering, block delete of a range of lines, DOS functions, single key entry of common commands, and even three programmable keys which the programmer can tailor to his or her own needs. BASIC Commander leaves all of page 6 free for you to use as usual. This program is clearly THE MOST POWERFUL programming aid available for your ATARI.

INSTALLING BASIC COMMANDER INTO YOUR COMPUTER

Your new BASIC Commander disk comes with a write-protect tab on it.

DO NOT REMOVE THIS TAB DO NOT ATTEMPT TO WRITE TO THIS DISK

To do so will void your warranty. Turn on your disk drive, and wait for the top red light to go out. Place the BASIC Commander disk in the drive, and close the door. Turn on your TV or video monitor, and then check to be certain that your ATARI BASIC cartridge is in place. Then turn on your computer. The disk will automatically load BASIC Commander into your computer, and the logo will appear across the top of your screen, followed by the usual ATARI BASIC READY prompt.

At this point, it is ESSENTIAL to remove the BASIC Commander disk and put it in a safe place. Replace it with a formatted disk.

Proceed with your programming, aided by the features described below.

BASIC COMMANDER FEATURES

1. Automatic Line Number Generator

You may use this option to have your computer automatically generate line numbers and properly position your cursor to accept the next program line. Routinely, depending on your typing speed, this can cut program entry time between 25 and 75%. To enter this mode, press the **START** key. The computer will respond with the prompt "INCREMENT, START", and wait for you to respond. Initially, the default values are 10,10. If you simply hit **RETURN** at this point, a line number will appear on the left side of your screen, an increment of 10 above the last line of your program (a 10 will appear if you have no BASIC program in memory). This option is also useful for determining the number of the last line of your program without needing to list out the entire program. **NOTE:** By using this feature, you **cannot** overwrite an existing line of your program.

If you wish to select numbers different from the default values, simply type them in following the prompt, and then hit **RETURN**. For example, entering 10,100 would mean that the first line number is to be 100 and the next 110, followed by 120, 130 and so on, and 20,1000 would generate the series 1000, 1020, 1040, etc. If you change the default increment, it will remain at the new spacing until you change it again.

*** DANGER ***

When you select line numbers, the program assumes that you really mean to start with that number. If that line is already in your program

**** **IT WILL BE DELETED!!** ****

This option will allow you to add new line numbers in the middle of an existing BASIC program. However, with the exception of the starting line numbers, BASIC Commander will not generate a line number that overwrites an existing line of your program. If the next line number to be generated equals an existing line number, BASIC Commander exits the program and beeps to alert you that it is no longer generating line numbers. For example, if your current program has lines 100, 200 and 300, and you begin entering new lines from 70 by tens, lines 70, 80 and 90 will be accepted, but line 100 will not, exiting you from this mode, preventing you from overwriting line 100.

As you enter each line in this mode, the lines are tokenized by the ATARI BASIC cartridge. This tokenizing process takes less than a tenth of a second, and you will hear the keyboard click when the computer is ready to accept the next line of your program. Waiting for the click to continue typing tends to become second nature within a few minutes of working with BASIC Commander.

To exit from this mode at any time after you start, simply hit RETURN as the first character of a new line. If, after you enter a line, the tokenizing process detects an error, you will automatically exit the automatic line numbering mode, the computer will beep, and wait for you to correct the error. Once you have made the corrections, re-enter the automatic line numbering mode by pressing START followed by RETURN, and continue as you were before the error occurred.

2. Renumbering Program

This program will allow you to renumber all lines of your BASIC program, and all references, such as GOTO, GOSUB, TRAP, RESTORE, IF...THEN, and all others as well. It will renumber a 500 line ATARI BASIC program in 3 seconds! The program is initiated by pressing the SELECT key. The computer will respond with the prompt "INCREMENT, START". Pressing the BREAK Key at this time will abort the program, preventing line renumbering. Enter the values you would like, such as 100,100 or 10,1000, and RETURN. Your program will be renumbered with the first line number equal to START and the interval between lines equal to INCREMENT. THE DEFAULT VALUES OF 10,10 are the same as for the automatic line number generator described above, and once again, any change in the increment will remain in place until changed again.

This program will abort if any of the new line numbers exceeds 32767 (The maximum line number permitted in ATARI BASIC) BEFORE any changes are made in your program. Indirect line references (for example, GOTO A, or GOSUB 5*B) are not renumbered, but the line numbers on which they occur are listed on your screen to facilitate correcting them. Also, line number references without corresponding target line numbers (for example, GOTO 5, where there is no line number 5) are not changed, but are also listed (separately!— to the screen as a debugging aid.

3. Block Delete

Although ATARI BASIC allows you to delete a single line by typing its line number and RETURN, deleting a block of lines can be time consuming and cumbersome at best, and at worst, will lock up your computer, running the risk of losing your program. The block delete function of BASIC Commander solves these problems for you. A series of BASIC lines can be deleted using this option. Press the OPTION key and the prompt "BLOCK DELETE - ENTER START, END" will appear.

Enter the first and last line numbers of a series of lines to be deleted, press RETURN and the lines are instantaneously deleted. If you press BREAK at any time before RETURN, you will abort this function without deleting any lines.

4. Programmed Keys

Several of the CTRL-key combinations are preprogrammed by BASIC Commander to perform frequently used functions. Hold down the CTRL key while simultaneously pressing any of the keys listed below to obtain the function desired. The chart lists the key to depress with the CTRL key, the mnemonic (an aid to remembering the functions associated with that key), and the function that appears on the screen. Remember that these position the cursor immediately after the last character of the function, so that you can simply type in the appropriate information. After hitting RETURN, the computer will act just as if you typed in the whole line. These can be used either in the direct (no line number) or deferred (with line number) mode.

<u>CTRL-key</u> <u>Combination</u>	<u>Mnemonic</u>	<u>Function</u>
S	Save	SAVE "D:
E	Enter	ENTER "D:
O	Output	LIST "D:
P	Print	? #6; "
L	Load	LOAD "D:
G	Go	RUN "D:
V	Variables	lists all of the variables you have used in your ATARI BASIC pro- gram, followed by the total number of variables.

5. Programmable Keys

In case this list leaves out one of your most frequently used commands, BASIC Commander even gives you the ability to program three more keys to meet your individual needs! The CTRL-key combinations A, B, and C are reserved for your use. To program them, press CTRL-Q and the computer prompts "SELECT KEY (A,B OR C)". Press the key you wish to program (without the CTRL key) and RETURN. The computer then will request that you enter the statement to be programmed. Enter this statement (a maximum of 36 characters are permitted per key), and hit RETURN if the statement is to end in a carriage return, or CTRL-period followed by a RETURN, if you want the cursor to remain at the end of your programmed statement. From this time on, until you turn off your computer, whenever you hit this CTRL-key combination, your own programmed statement will appear on your screen! Note that if you need statements longer than 36 characters, the 3 programmable keys can be strung together, so that hitting CTRL-A, CTRL-B, CTRL-C could result in one statement with a combined length of 108 characters. Also, you can input any line on your screen into a programmable key by properly positioning the cursor and hitting RETURN. The flexibility of this function of BASIC Commander cannot be overemphasized. Feel free to experiment!

6. DOS Functions

Utilizing DOS 2 is certainly a big step forward from ATARI's original DOS I, but one major disadvantage is the need to constantly shift from your program to DOS to accomplish certain functions, requiring a MEM.SAV file on disk, or many SAVes and LOADs. Alternatively, the X10 commands to accomplish these tasks are laborious at best. These disadvantages of DOS 2 are eliminated with BASIC Commander. Additional preprogrammed keys are assigned by BASIC Commander to perform DOS functions, and are described by the following table.

<u>CTRL-key</u> <u>Combination</u>	<u>Mnemonic</u>	<u>DOS Function</u>
D	D irectory...	lists your disk directory
K	L ock	locks the file of your choice
U	U nlack	unlocks any file
X	X out	deletes any file
R	R ename	renames any file
F	F ormat	formats the disk! **BE CAREFUL** *****

For the K, U and X CTRL-key combinations, the computer asks for the file name you wish to access. Enter the device (e.g., D1: or D2:), followed by the file name. An example of a complete file name specification is D1:NAME.EXT. For option R (Rename), two file names are required, separated by a comma (e.g., D1:OLDNAME,NEW-NAME). If you hit BREAK key instead of giving a file name specification, this function will be aborted without changing any files.

The F (Format disk) option does not require a full file name specification, but does require a device (e.g., D1: or D4:). The computer will first ask you to type "Y" to proceed. Any other key aborts this option without affecting your disk. If you respond with the "Y", it will then ask you for the device. Formatting takes place after you type in the device, followed by RETURN.

***** **WARNING** *****

This option will erase your disk.

With the inclusion of these functions, along with access to the disk directory, you should never have to access DOS from BASIC. If you do, however, you **MUST** hit SYSTEM RESET first, and this will eliminate BASIC Commander from your computer memory. After accessing DOS, it will then be necessary to reboot with your original BASIC Commander disk to once again begin programming.

7. Printing of CONTROL Characters

There are times when, rather than utilizing, for example, CTRL-period to program one of the programmable keys, you want to use it to place a diamond-shaped graphics character in your program. If you simply hit CTRL-0 (the number, not the letter), all CTRL-key combinations will then produce their usual graphics characters. To return these keys to their preprogrammed mode, simply type CTRL-0 again. You can toggle back and forth at will!

8. Help File

A file is available indicating all functions and keys to access for BASIC Commander.

To view this file, simply type in RUN "D:HELP", and press return. Press the space bar to exit.

REMEMBER: Save your BASIC program *prior* to exiting to view the HELP file.

**ENHANCEMENTS TO BASIC COMMANDER WILL BE MADE.
BE SURE TO SEND IN THE ENCLOSED WARRANTY
CARD TO BE PLACED ON OUR MAILING LIST TO
LEARN OF THESE.
ALSO, WRITE TO US WITH SUGGESTIONS FOR
IMPROVING THE PROGRAM.
WE WELCOME THEM!
ABOVE ALL, ENJOY PROGRAMMING WITH
BASIC COMMANDER!!**

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